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The author inferred the relative date of the two classes of barrows from the archæological evidence. He observed that in no well authenticated instance had objects of metal or of the finer decorated pottery been found with the primary interments in *long barrows*, but only those of stone, bone or horn, and a peculiar coarse kind of pottery. He hence refers the long barrows to the *Stone period* of antiquaries, and believes that they are the earliest sepulchral monuments of the inhabitants of these islands which remain to us.

In the *round barrows*, on the other hand, objects of bronze, (very rarely of iron,) and richly decorated pottery, are often found, with or without objects of stone. The author hence refers the round barrows to the *Bronze period* of antiquaries, and to that of bronze and iron transition. Differing in this respect from the long barrows, a large majority of them cover interments after cremation. In the opinion of the author, they formed the tombs of the later Britons, down to the time of the Roman conquest of the island. In conclusion, Dr. Thurnam presented a summary of his inferences, under nine different heads.

The CHAIRMAN thanked Dr. Thurnam in the name of the meeting for coming so great a distance to read to them his very able and learned paper, and suggested that another paper on the same subject by Mr. Blake should be read before the discussion.

The following paper was then read :—

*On Certain Skulls from Round Barrows in Dorsetshire.* By C. CARTER BLAKE, Esq., F.G.S., Curator and Lib. A.S.L. [Vide *Anthropological Review*, vol. iv, p. 398.]

[The paper will appear at length in the *Memoirs*.]

The CHAIRMAN, after thanking Mr. Blake, remarked that Dr. Thurnam's statement that anchylosed vertebræ had been found in the dolichocephali, appeared to him very curious, as it was said to indicate going upon all fours, thus showing a degradation in the race form in the brachycephali.

Mr. L. O. PIKE thought the Society much indebted to Dr. Thurnam and Mr. Blake. They, and men like them, had placed anthropology on a different footing from that on which it had stood in former times. They had left the effete schools of dogmatism and conjecture, and had brought arithmetic, the best friend of the exact sciences, to bear upon the subject. On that score anthropologists owed a great debt of gratitude to Dr. Thurnam. Formerly, if a community were found to speak one language, and another community a somewhat similar language, that fact was thought sufficient to prove the kinship of the two peoples. But it was now known that similarity of tongues was frequently accompanied by great dissimilarity in the shape of the skull, and if race meant anything we must assign the different forms of the skull to different races. The principle of classifying races by language would, if fairly carried out, prove a parrot which could say "Good morning," to be more nearly akin to an Englishman than an

Englishman is to a Frenchman or a Highlander. He did not, however, quite agree with Dr. Thurnam's conclusions that the long-headed men were short of stature and that the short-headed men were tall, for the measurements given had been taken only from twenty-five of the dolichocephalic skulls and twenty-seven of the brachycephalic, which he thought far too small a number to give reliable data as to the proportions of the two races.

Dr. THURNAM having interrupted him to explain that the measurements were taken from the *thigh-bones* of the skeletons of each type, from which the height was calculated according to the admitted standard of proportion,—

Mr. PIKE said he had, by a slip of the tongue, used the word skull instead of skeleton; but his objection was not to the manner in which measurements had been taken, but to the small number of instances from which so large an inference had been drawn. He understood Dr. Thurnam to have said further, that anchylosis of the cervical vertebræ was found in the long-headed race who injured themselves in creeping into their caves, and who were less civilised than the short-headed men. But the caves were used for storing corn which, it had been said, was cultivated only by the more civilised Britons. If that were so, how was it that the more civilised people who were agricultural, who grew corn and required storage-room, and therefore made use of cave-dwellings, did not get injured; while those who led a nomadic life and cultivated no corn, were unfortunate enough to exhibit all the injuries which cave habitation was said to produce? The dolichocephali were also stated to have been less prognathous and to have had less harsh features than the brachycephali. If so, was it reasonable to suppose that they were less civilised? He could not see why the short-headed should be considered more modern than the long-headed race. What was the total number of skulls of each type that had been found? The long, he believed, outnumbered the short considerably, but if the former were more ancient, surely their remains would be less numerous. Dr. Thurnam had endeavoured to account for this, and had said that the short-heads burnt their dead and were the dominant race; but if they introduced the practice of cremation as well as round barrows, while the long-headed race adhered to inhumation, then the preponderance of dolichocephali would have been found in the round barrows unless the dominant race had exterminated them, or the practice of burial in the long barrows had continued and co-existed with burial in the round barrows. But against the preponderance of short-heads at any time was the fact that the English of the present day are one of the longest-headed peoples in Europe and in Wiltshire certainly the longest without exception, while the only important infusion of foreign blood since the time of the round barrows had been that of short-headed Germans. Dr. Thurnam had also said that the long-headed type was that of the Iberians, and the short-headed that of the Belgæ, but this was, in his opinion, an unfounded and contradictory assertion. Tacitus wrote that the Silurians who inhabited the district now called South Wales were probably Iberians. The Belgæ

were in England found only on the southern coasts. How was it if the brachycephalic Belgæ established themselves in Wiltshire that the people of that county had, in the present day, the longest heads in Europe? And how were the short skulls found in different parts of the country to be accounted for if they were the skulls of the Belgæ, who, according to Dr. Thurnam himself, never penetrated into the interior. There was no theory to account for such discrepancies.

Mr. LAMPRAY asked what was the ordinary length and breadth of the barrows?

The CHAIRMAN having proposed that Dr. Thurnam should reply *seriatim* to Mr. Pike's questions, and then to any others that might be raised,

Dr. THURNAM said, perhaps he had better state at once, in reply to Mr. Lampray, that the size of the barrows is various, those called *long* being from 200 or 300 to 350 feet in length, and 50 to 70 feet in breadth, and the elevation of some from 3 to 5 feet, while others are 9, 10, or even 12 feet in height. They are very elongate, being, in fact, great earthworks; and it was surprising that a rude people should have taken so much pains to make them, especially as designed for places of burial, remains being only found in one corner of them. A trench on each side, but not extending round each end, adds to their apparent height. The *round* barrows are from 60 to 90 feet in diameter, and from 1 to 12 feet in height. He had seen none higher than 15 feet.

Mr. HYDE CLARKE considered that it would be very inconvenient if Dr. Thurnam were called upon to reply to each question raised, especially as some of the members present might be willing to support the opinions expressed in the paper. For his part, he thought that when so large a collection of skulls as that before them was exhibited it must strike everyone that they were useless to prove anything by themselves. To what nations could they be referred except by the aid of historical and lingual affinities. The relation of the Belgæ and Iberians had been illustrated by the discoveries made by Dr. Thurnam and set forth in his paper. He agreed with Mr. Pike that no portion of evidence should be neglected, and on that occasion still further light had been thrown upon the Iberian question. He doubted, however, whether any of these were Iberian skulls. Looking to history, the first account of Iberian civilisation written by Humboldt had been followed up by later histories and through different aspects till evidence had culminated in osteological facts. If Dr. Thurnam had classified the skulls as those of two distinct nations we could go to history to find out whether it justified such a classification, and by that means arrive at a satisfactory conclusion. Such a difficult question should be carefully and calmly considered, and in that, as in all scientific pursuits, we ought never to nail our colours to the mast, but always be ready to collect fresh evidence and form opinions accordingly. It would be curious to find out, for example, whether alleged lingual affinities were supported by these osteological discoveries.

The Rev. DUNBAR HEATH remarked that a sort of challenge seemed to have been given by Mr. Hyde Clarke, who thanked the osteologists for

having taken the subject out of the hands of the anthropologists. For his part, he had no wish any science should go alone, and the question of osteology, of anthropology, and every other "ology" must be considered together. A science pursued alone was of little use and small interest. But as to the question of osteology, he could not limit his attention to Great Britain. Similar facts he knew were to be found also in Europe and Asia. An important question which must suggest itself to the mind of every thinking person was, how such different types could have arisen in the human race. There was also a chronological question upon which such investigations might throw light. In the valleys through which the rivers Tigris and Euphrates flowed, the old Scythic monarchy which founded Babylon existed at a most important epoch,—that between the stone age and the bronze age. The Scythians were a broad-headed race, and the first originators of civilisation and science. If that be proved they form a boundary between two great periods of development, and serve to show that chronology is in close connection with osteology. And further, the Nigritian race was spread over Syria, India, and Africa, and if they were found also over Europe, then it would be shown that the whole of Europe and Asia were peopled by both the long and short-headed races. The spots of the globe filled by a previous race would afford further scope for investigation, and then might arise the question regarding intermixture of the Nigritian and Tartar races leading to something really very interesting.

Mr. McGRIGOR ALLAN asked how male and female skulls were distinguished; for if only by size, that would be uncertain, Dr. Carl Vogt having stated that the female had the infant type of skull; and if that were so it might, perhaps, determine the intellectual status of woman.

Dr. HUNT thought it only right to mention that he had obtained the skulls which were exhibited from the Dorsetshire barrows, from Mr. Shipp, who was not responsible for any opinion expressed upon them by Mr. Blake. The specimens were sent to their museum at the time of the Nottingham Meeting of the British Association, and Mr. Blake had examined and reported upon them at his request. He did not think there need be much difference of opinion about the two papers before them. Both had been brought forward in an admirable manner, and the right interpretation of the subject was a mere question of theory. That laid down by Dr. Thurnam, "long barrows, long skulls; round barrows, round or short skulls," was very startling, but at any rate there was great good to be got from such descriptions as had been given. He was glad that Dr. Thurnam had made an admission not in his former paper to the effect that he was prepared to find occasional exceptions to his axiom. Had the facts borne out Dr. Thurnam's theory he, for one, would have accepted it.

Mr. BROOKES said that it did not appear to him that Mr. Blake's remarks had invalidated the position taken by Dr. Thurnam, whose paper had not been done justice to. If round skulls had been found in long barrows with implements of a later date than that assigned to the earlier race, that would have upset his theory, but such was not the

case. The observation of long skulls alone in long barrows had led to the theory advanced, and even if that were wrong the facts might be right. Long skulls had been found in round barrows it was true, but Mr. Blake had not discovered round skulls in long barrows, which alone would have affected Dr. Thurnam's position, inasmuch as the long-headed race might survive long after their subjugation by the round heads: that was no more than might have been expected.

Dr. CHARNOCK remarked that writers had made a great deal of mystery about the Iberi; and that anyone who lived near water might be termed an Iberian. The term Iberia was derived from the river Ebro, a name derived from the Greek *ἑβρος*, water, which in Celtic became *dwr*, *dour*, *dower*, etc., and in Dutch, German, etc., *water*, *wasser*, and which was liable to contract and corrupt into *ur*, *eur*, *evr*, *ebr* hence the name Ebro, the river Eure (*Ebura*), and the town of Evreux in Normandy.

Mr. HIGGINS considered that Dr. Thurnam had fairly proved his position, and that it had not been invalidated by Mr. Blake. As to Dr. Thurnam's alleged positiveness, he had referred to the previous paper read by him, and had found that in it he had distinctly stated that he expected to meet with a few long skulls in the round barrows. He thought Dr. Thurnam had vindicated his theory on that occasion.

Dr. THURNAM, in reply, said he was no transmutationist, and thought too, that man was "created upright." It was, no doubt, a degradation to go upon all fours; but, perhaps, that came of necessity, and from being unable to construct or obtain any but low, narrow dwellings, they were forced to enter them in that manner. The anchylosis of some of the vertebræ was not uniformly found in the skeletons; but he had observed its occurrence so frequently as to claim attention. With regard to Mr. Pike's remarks, he would again refer to the statement of Diodorus, that the Britons had subterranean repositories for their corn; and to Tacitus, who says that the same custom prevailed among the Germans, and adds that they lived in such places during a part of the year. This might reasonably have been the practice of some of the ancient British tribes, but he would not insist upon that as conclusive.

Mr. PIKE explained that he had referred to Dr. Thurnam's statement that the brachycephali were the most civilised, and the corn growers, and yet without the indication of using caves, and, therefore, of storing corn, which indication was present in the dolichocephali who went into their caves on all fours.

Dr. THURNAM considered that rather Mr. Pike's own inference, than as necessarily implied by what he had said on the subject. With regard to the statistics of the stature of the two races, he would, of course, have preferred to have had more instances to deal with, but he would appeal to anyone whether the fifty-two facts taken from analogous examples, twenty-five of the long heads and twenty-seven of the round heads, did not afford at least a strong presumption in favour of the truth of his inference. The proportions were likely to be slightly modified by measurements from a larger number of examples. The

facts obtained, such as they were, supported his assertion that the long-headed race were shorter than the brachycephali. Mr. Pike had also asked what was the total number of skulls of the two types found, and expressed surprise that, on the assumption of the greater antiquity of the dolichocephali, so many long skulls were found, and so few short. But the numbers really given were seventy from the long barrows, and sixty-seven from the round, or nearly equal. A greater number had been obtained, but those of doubtful origin were weeded out. Considering the probable greater antiquity of the dolichocephali, it certainly appeared strange at first sight that they should be so numerous, but it must be borne in mind that skeletons of that type of skull were found in heaps in the long barrows, while the brachycephali were mostly found singly in separate round barrows. He accounted for the large number of skeletons in the former by supposing that the burial of a chief had been accompanied with the slaughter of slaves and others, and that was supported by the cleft appearance of many of the skulls. The fact, however, remained that there were many skulls in the long, to only one, two, or perhaps three, in the round barrows. As to what had become of the long headed race, he thought that the dolichocephalic type, or that of the aborigines, had since become modified. We should never find now an average breadth-index of  $\cdot 71$ ; that of skulls from modern graveyards being at least  $\cdot 75\cdot 77$ . The fact was that the modern English people were a mixed, and as might be said, a mongrel race. The breadth of modern English skulls was due to the blending of race; and though individual instances might still be found as long as the dolichocephali of the past, he knew of no collective measurement of twenty modern skulls presenting the same dimensions as those of ancient times. He did not, of course, claim a blood-relationship for the British dolichocephali with the Polynesians; and only mentioned them to shew that they did not possess any series of modern European skulls of so low a breadth-index as  $\cdot 71$ . With regard to the Iberians, Dr. Hyde Clarke would probably agree with him, that they peopled Spain and a part of Gaul. And, in reply to Mr. McGrigor Allan's question, he might say that female skulls were distinguished from male skulls, not merely by their size, though that of the female was ten per cent. smaller than that of the male, and the brain ten per cent. less in weight, but also by being mostly flatter at the vertex, and by a frequent perceptible constriction in the line of the coronal suture. Type was less marked in the female skull; the dolichocephalic female deviating towards the brachycephalic forms, and *vice versa*. There was, as he believed, a general tendency in the sex, towards the ovoid, orthocephalic or mesaticephalic form, as represented in the beautiful Greek statues of females.

Mr. McGRIGOR ALLAN explained that he asked whether the female skull was also smaller in proportion to the skeleton.

Dr. THURNAM stated that he thought the difference was not so great in that respect, it being only, perhaps, three or four per cent. smaller. Dr. Hunt had referred to his axiom as having in his former paper been given as positive. This, however, was a mistake. It was expressly

qualified by the statement (*Memoirs Anthropological Society*, ii, 128), that "as regards the later (round) barrows, it is evident that, unless the earlier race had been suddenly exterminated by the succeeding one, a mixture of interments and a mixture of the two types were to have been expected." (See, likewise, the statement to the same effect, p. 150.)

Mr. CARTER BLAKE, in reply to the comments made upon his paper, reminded Mr. Higgins that some of the descendants of the primitive dolichocephali were probably still extant in Ireland according to Messrs. Beddoe and Davis, and that there must have been some at any rate as recently as when Cork cathedral was used as a place for burial, a skull of that type having been found there by Col. Lane Fox. Dr. Thurnam had criticised the instrument he had used for measuring skulls, but he would mention that it satisfied Dr. Broca and Dr. Quatrefages, and met with Professor Huxley's approbation and Professor Owen's admiration. Dr. Thurnam had advocated the crude generalisation of "long barrows, long skulls; round barrows, short or round skulls," and to support it had referred the exceptions to admixture of race. Now, after having deducted the two extreme specimens from Blandford upon which he had commented, he found the result to be that the remainder oscillated between '67 and '79 respectively, while Dr. Thurnam's twenty-five skulls found also in round barrows were between '68 and '84, having consequently a broader average. For his part, he hoped science would always stick to facts. Dr. Thurnam's views had met with most able adverse criticism in the brother society of Paris, and with demolition at the hands of Mr. Pike in his work on the *Origin of the English*, so that in rejecting them he would be quite content to stick to facts.

The meeting then adjourned.

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MARCH 19TH, 1867.

T. BENDYSHE, Esq., M.A., V.P., IN THE CHAIR.

THE minutes of the last meeting were read and confirmed.

The following gentlemen were duly elected :—J. C. Davies, Esq., M.D., L.R.C.P., M.R.C.S., Ivy House, Holywell; F. Duncan, Esq., M.A., D.C.L., F.G.S., F.R.G.S., Captain Royal Artillery, the Citadel, Plymouth; Reginald R. Dudley, Esq., F.R.C.S., Leicester, as Fellows of the Society; and M. Lelorrain as Local Secretary for the Champagne District, France.

The presents received since the last meeting were announced, viz. :—

FOR THE LIBRARY.

Shakespeare's Hamlet. Tywysog Denmarc.

Transactions of the Royal Society of Literature.

One of the People. Letter to Lord Derby on Political Reform.

The CHAIRMAN having thanked the respective donors in the name of the Society,